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(54) MAGNETIC DISK DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To reduce the dimensional change in an axial direction by constituting a thrust bearing while using one end of a rotary shaft as a pivot bearing having a spherical shape and also reducing the surface pressure of the sliding surface while allowing the radius of curvature of this sphericality to have a specific dimension and applying a ceramic coating on the sliding surface to enhance wear resistance of the pivot bearing.

SOLUTION: A sealing ring 7, dynamic pressure radial bearings 2, a permanent magnet 3 which is to be provided between dynamic pressure bearings, a stopper ring 16 and a thrust bearing 5 are arranged from the side of opening part of a bearing housing 6 and along a rotary shaft 1. Magnetic fluid for lubrication 4 is sealed among the rotary shaft 1, the radial bearings 2 and the thrust bearing 5. A ceramic film 27 is applied on the surface of the thrust bearing 5 (the range of diameters of the shaft is 2 mm to 5 mm). The top end of the rotary shaft 1 which supports the thrust loading in the axial direction is made in a spherical shape (the radius of curvature of the curved surface is 10 mm to 50 mm) and constitutes a pivot bearing. Moreover, the stopper ring 16 is arranged at the part of a groove to be provided in the shaft 1 between the thrust bearing 5 and the radial bearing 2.